

RECEIVED
CENTRAL FAX CENTER

JUN 03 2009

- 2 -

IN THE CLAIMS

1. (Currently amended) A method for obscuring an aircraft from infrared detection from an external viewing location, comprising the steps of
providing the aircraft in flight having an externally viewable hot region associated therewith, wherein the hot region has a temperature greater than 150°C;
determining an external viewing location that is associated with a ~~greatest~~ threat of an attack on the aircraft;
providing on the aircraft a source of an obscuring agent, wherein the obscuring agent comprises carbon dioxide gas, or water vapor, or a mixture thereof; and
ejecting the obscuring agent from a dispensing location on the aircraft so as to flow between the hot region and the external viewing location, wherein the obscuring agent has a temperature of less than that of the hot region.
2. (Original) The method of claim 1, wherein the step of providing the aircraft includes the step of
providing a transport aircraft.
3. (Withdrawn) The method of claim 1, wherein the step of providing the aircraft includes the step of
providing the aircraft wherein the hot region is a structural portion of the aircraft.
4. (Original) The method of claim 1, wherein the step of providing the aircraft includes the step of
providing the aircraft wherein the hot region is a plume of hot gas flowing from the aircraft.
5. (Withdrawn) The method of claim 1, wherein the step of providing on the aircraft the source of the obscuring agent includes the step of
providing the source of the obscuring agent comprising a supply of the obscuring agent carried on board the aircraft.

- 3 -

6. (Original) The method of claim 1, wherein the step of providing on the aircraft the source of the obscuring agent includes the step of providing the source of the obscuring agent comprising a supply of the obscuring agent generated on board the aircraft.

7. (Withdrawn) The method of claim 1, wherein the step of providing on the aircraft the source of the obscuring agent includes the step of providing the source of the obscuring agent comprising a portion of the exhaust gas of a gas generating engine on the aircraft.

8. (Original) The method of claim 1, wherein the step of providing on the aircraft the source of the obscuring agent includes the step of providing the source of the obscuring agent as a portion of an exhaust gas of a main propulsion engine of the aircraft.

9. (Withdrawn) The method of claim 1, wherein the step of providing on the aircraft includes the step of providing carbon dioxide gas as the obscuring agent.

10. (Withdrawn) The method of claim 1, wherein the step of providing on the aircraft includes the step of providing water vapor as the obscuring agent.

11. (Original) The method of claim 1, wherein the step of providing on the aircraft includes the step of providing a mixture of carbon dioxide gas and water vapor as the obscuring agent.

12. (Original) The method of claim 1, wherein the step of providing on the aircraft includes the step of providing solid-material particles in the obscuring agent.

13. (Original) The method of claim 1, wherein the step of providing on the

- 4 -

aircraft the source of the obscuring agent includes the step of providing solid metal particles in the obscuring agent.

14. (Previously presented) The method of claim 1, wherein the step of ejecting includes the step of

ejecting the obscuring agent so as to obscure a portion of an exhaust gas of an auxiliary power unit of the aircraft.

15. (Original) The method of claim 1, wherein the step of ejecting includes the step of

ejecting the obscuring agent so as to obscure a portion of an exhaust gas of a main propulsion engine of the aircraft.

16. (Original) The method of claim 1, wherein the step of ejecting includes the step of

ejecting the obscuring agent at a temperature of less than about 150°C.

17. (Previously presented) A method for obscuring an aircraft from infrared detection from an external viewing location, comprising the steps of

providing a transport aircraft in flight having an externally viewable hot region associated therewith, wherein the hot region has a temperature greater than 150°C;

providing on the aircraft a source of an obscuring agent, wherein the obscuring agent comprises a mixture of carbon dioxide gas and water vapor; and

ejecting the obscuring agent from a dispensing location on the aircraft so as to flow between the hot region and the external viewing location, wherein the obscuring agent has a temperature of less than that of the hot region, and wherein the dispensing location is on an engine nacelle of the aircraft forward of an aft end of an engine contained within the nacelle, or on a wing of the aircraft, or on a fuselage of the aircraft just ahead of an auxiliary power unit.

18. (Original) The method of claim 17, wherein the step of providing on the aircraft the source of the obscuring agent includes the step of

- 5 -

providing an additional source of the obscuring agent as a supply of the obscuring agent carried on board the aircraft.

19. (Original) The method of claim 17, wherein the step of providing on the aircraft the source of the obscuring agent includes the step of

providing the source of the obscuring agent comprising a portion of the exhaust gas of a main propulsion engine of the aircraft.

20. (Original) The method of claim 17, wherein the step of providing on the aircraft the source of the obscuring agent includes the step of

providing the source of the obscuring agent comprising a mixture of carbon dioxide gas, water vapor, and solid-material particles.

21. (Original) The method of claim 17, wherein the step of providing on the aircraft the source of the obscuring agent includes the step of

providing the source of the obscuring agent comprising a mixture of carbon dioxide gas, water vapor, and solid metal particles.

22. (Previously presented) A method for obscuring an aircraft from infrared detection from an external viewing location, comprising the steps of

providing the aircraft in flight having an externally viewable hot region associated therewith, wherein the hot region has a temperature greater than 150°C:

providing a source of an obscuring agent, wherein the obscuring agent is stored on board the aircraft or generated on board the aircraft, and wherein the obscuring agent comprises carbon dioxide gas, or water vapor, or a mixture thereof; and

ejecting the obscuring agent from a dispensing location so as to flow between the hot region and the external viewing location but not to cool the hot region, wherein the obscuring agent has a temperature of less than that of the hot region, and wherein the dispensing location is on an engine nacelle of the aircraft forward of an aft end of an engine contained within the nacelle, or on a wing of the aircraft, or on a fuselage of the aircraft just ahead of an auxiliary power unit.

- 6 -

23. (Previously presented) The method of claim 1, wherein the step of providing the aircraft includes the step of providing the aircraft that does not carry flares and does not have an active infrared threat warning system.

24. (Previously presented) The method of claim 1, wherein the step of ejecting includes the step of preferentially ejecting the obscuring agent to obscure most-likely lines of sight which are below, in front of, on the sides of, and behind the aircraft.

25. (Previously presented) The method of claim 1, wherein the step of ejecting includes the step of ejecting the obscuring agent at a rate of at least 4 pounds per second per 100 watts per steradian of infrared energy produced by the hot region.

26. (Previously presented) The method of claim 1, wherein the step of providing the aircraft includes the step of providing the aircraft wherein the hot region is a plume of hot gas flowing from the aircraft, and wherein the step of ejecting includes the step of ejecting the obscuring agent so that it is not initially mixed with the plume.

27. (New) The method of claim 1, wherein the step of determining includes the step of determining a line of sight to a most-probable external viewing location that is associated with a threat of an attack on the aircraft.

28. (New) The method of claim 1, wherein the step of determining includes the step of determining a line of sight to a most-probable external viewing location that is associated with a greatest threat of an attack on the aircraft.

29. (New) The method of claim 1, wherein the step of ejecting is performed

- 7 -

concurrently with an attack on the aircraft from a direction of the external viewing location.